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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Tomoya Kawasaki

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EXAMINER

ZANELLI, MICHAEL J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,834	Applicant(s) KAWASAKI, TOMOYA	
	Examiner Michael J. Zanelli	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 14, 15, 18-22 and 24-35 is/are rejected.
- 7) ☒ Claim(s) 9-13, 16, 17 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/9/06, 4/10/06, 1/22/07, 8/1/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This application has been examined. Claims 1-35 are pending.
2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
3. The IDS filed 1/9/06, 4/10/06, 1/22/07 and 8/1/07 have been considered as indicated. The search report merely satisfies the relevancy requirement and is not citable "prior art" in and of itself.
4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
5. Claims 11-13, 29-31 and 34 are objected to because of the following informalities:
 - A. As per claim 11, at line 5 "devices" should be --device--.
 - B. As per claim 29, at line 3 insert --of-- after "information".
 - C. As per claim 34, at line 3 insert --to-- after "operable".
 - D. All claims depending from an objected base claim are also objected to as containing the same deficiencies.
6. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - A. As per claim 27, "the widthwise center position" lacks antecedence.

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7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 5-8, 14, 15 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kinoshita et al. (6,114,951).

A. As per claims 1 and 2, Kinoshita discloses a crash-safe vehicle control system (Fig. 2) comprising an object-information obtaining device (20) for obtaining information about at least one object preceding a vehicle; an operating device (4; col. 4:2-4) operable in presence of possible crash; and crash-safe control device (30) to control the operating device based on information obtained from the object-information obtaining device. The crash-safe control device is operable to at least control the operating device based on information about an object preceding a first preceding vehicle in front of the own vehicle (Abs; Fig. 4; col. 3:51 to col. 4:4).

B. As per claims 5-8, 14 and 15, as above whereby at least distance information is obtained for a first-preceding vehicle as well as distance information for an object in front of the first-preceding vehicle such that the operating device may be operated based on the possibility of a crash in view of

the distance between the own vehicle and the first-preceding vehicle and the distance between the first-preceding vehicle and an object (i.e., vehicle) in front of the first-preceding vehicle (Fig. 4; col. 3:51 to col. 6:3).

C. As per claim 18, as above whereby the operating state (i.e., speed, acceleration) of the preceding vehicle may be obtained and used to control the operating device (Fig. 6:S305, S306).

9. Claims 1, 21, 22, 28 and 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Kodaka et al. (6,269,308).

A. As per claims 1 and 21, Kodaka discloses a crash-safe vehicle control system (Fig. 2) comprising an object-information obtaining device (3,4) for obtaining information about at least one object preceding a vehicle; an operating device (2, 8) operable in presence of possible crash; and crash-safe control device (U) to control the operating device based on information obtained from the object-information obtaining device. The crash-safe control device is operable to at least control the operating device based on width-related information about the preceding object relative to own vehicle (i.e., transverse distance) (Abs; Fig. 3).

B. As per claims 22 and 28, as above whereby width-related information is derived from the object-information obtaining device (Fig. 3; Fig. 5:4, M2) and represents widthwise positions relative to own vehicle and at least one object (Fig. 3).

C. As per claims 32-34, as above whereby the width-related information relates to the position of an own vehicle traveling in a lane and a preceding

vehicle. The width-related information is used to determine whether all or part of the preceding object (i.e., oncoming vehicle) overlaps with the own vehicle (Fig. 3). The operating device is controlled based on whether a collision is possible in view of the width-related information.

10. Claims 1, 21, 22 and 24-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuda et al. (5,995,037).

A. As per claims 1 and 21, Matsuda discloses a crash-safe vehicle control system (Fig. 1) comprising an object-information obtaining device (1) for obtaining information about at least one object preceding a vehicle; an operating device (9, 10) operable in presence of possible crash; and crash-safe control device (8) to control the operating device based on information obtained from the object-information obtaining device. The crash-safe control device is operable to at least control the operating device based on width-related information about the preceding object relative to own vehicle (Fig. 1:6; Fig. 2; col. 1:61-64).

B. As per claim 22 and 27-29, as above whereby width-related information (i.e., overlap) is obtained from the object-information obtaining device (Fig. 1:6, Fig. 2).

C. As per claims 24-26, as above whereby a radar is used to obtain the width-related information of an object preceding the own vehicle (Fig. 1:1).

D. As per claims 30 and 31, as above whereby the operating device may be automatic braking which applies brake pressure based in part on the width-related information (col. 2:22-44).

E. As per claims 32-34, as above whereby the object may be a preceding vehicle located in the same lane as own vehicle (Fig. 2).

11. Claims 1-6, 21, 22, 28 and 32-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Yajima (2004/0176900).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

A. As per claims 1, 2, 21 and 35, Yajima discloses a crash-safe vehicle control system (Fig. 1) comprising an object-information obtaining device (4) for obtaining information about at least one object preceding a vehicle; an operating device (3, 12) operable in presence of possible crash; and crash-safe control device (5) to control the operating device based on information obtained from the object-information obtaining device. The crash-safe control device is operable to control the operating device based on information about an object preceding a first preceding vehicle in front of the own vehicle as well as width-related information regarding the objects located in front of own vehicle (Figs. 3-5; [0002, 0008, 0022]).

B. As per claims 3-6, 22 and 28, as above whereby the object-information obtaining device may comprise a millimeter radar [0002] for obtaining information about the distance and widths of multiple objects (i.e., vehicles) preceding an own vehicle and controlling the operation device as appropriate [0008].

C. As per claims 32-34, as above whereby width-related information of the preceding object(s) (i.e., multiple vehicles) is obtained for each object traveling in own vehicle's lane and is used as a basis for control of the operating device (Figs. 3-6, 8).

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita et al. in view of Mager (7,365,769) and Breed et al. (2002/0198632).

A. As per claims 19 and 20, Kinoshita is applied as above. Claim 19 differs in that a camera is used to monitor a preceding vehicle to obtain an operating state of at least the operation of the brake lamp of the preceding vehicle. Claim 20 differs in that a receiver is provided to receive operating-state information transmitted by radio.

B. With regards to claim 19, it was known in the vehicle control arts to utilize a camera to monitor the brake lights of a preceding vehicle to detect application of the brakes. The obtained information may be used in one's own vehicle to automatically apply the brakes to avoid a collision (Abs; Fig. 1). One of ordinary skill in the art would have found it obvious to incorporate the brake light sensing capabilities of Mager into the system of Kinoshita because it would have added an additional level of safety in avoiding collision with a preceding vehicle. Since

Kinoshita already provides a camera as well as automatic braking capabilities, such a modification would not entail significant additional structures.

C. With regards to claim 20, it was known in the vehicle control arts to provide inter-vehicle radio communications for the purpose of collision avoidance (see as exemplary Breed: Abs; Figs. 5, [0186]). One of ordinary skill in the art would have found it obvious to incorporate the inter-vehicle radio communications such as disclosed by Breed because it would have provided an additional means of obtaining operating parameters of vehicles within proximity of one's own vehicle, including those vehicles which may not be within line of sight, as well as information not readily obtained by radar and/or camera (Breed: [0300, 0302]).

14. Claims 21, 22, 28 and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita et al. in view of Kodaka et al.

A. Kinoshita is applied as above whereby the crash-safe control device is operable to provide control based on at least information concerning a preceding vehicle and an object existing in front of the preceding vehicle. The claimed invention differs in that width-related information relative to preceding object(s) may also be taken into consideration.

B. Kodaka is applied as above whereby the crash-safe control device is operable to provide control based on at least width-related information relative to a preceding object (i.e., vehicle).

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C. One of ordinary skill in the art would have found it obvious to combine the teachings of Kinoshita and Kodaka because it would have provided a more robust collision avoidance system whereby one or more vehicles existing in front of a own vehicle as well as vehicles possibly encroaching into one's own lane could be taken into consideration, thus improving overall vehicle safety.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Zanelli whose telephone number is (571) 272-6969. The examiner can normally be reached on Monday-Thursday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J. Zanelli/
Primary Examiner
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